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ABSTRACT

The guide is intended for preservice teacher education in the use of video technology for the education of the deaf. Listed are advantages of instructional television such as its ability to provide immediate feedback through instant replay. Suggestions for use of the videotape recorded and monitor for playback include renting commercially prepared videotapes and training students to run the equipment. Examples of uses include presenting speech and lipreading exercises in magnified form and then analyzing each student's performance from videotape. Discussed are guidelines for selecting content for the television programs such as incorporating the principles of learning and defining the specific objectives of the program. The appendixes contain detailed information on operation and maintenance of instructional television equipment and effective use of educational television programs, a list of references and sources, and a glossary of 45 television terms. (DB)

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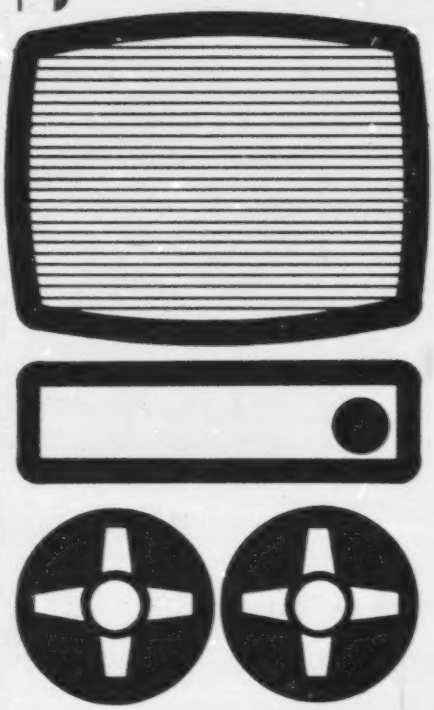

TELEVISION FOR THE HEARING HANDICAPPED LEARNER

PRESERVICE TEACHER HANDBOOK

EC062252

SOUTHERN REGIONAL MEDIA CENTER FOR THE DEAF
THE UNIVERSITY OF TENNESSEE · KNOXVILLE · 37916

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I. WHY TELEVISION IN DEAF CLASSROOMS?

The purpose of this guide is to assist future classroom teachers in making effective use of video technology for instruction of the deaf. The actual techniques and methods are neither new nor limited to handicapped learners, for they are the same principles and procedures used in good teaching regardless of the instructional medium employed or special requirements of the target learning group. Television, however, is uniquely suited to instruction of pupils who must depend heavily on the visual sense.

There is no magic in television -- or any other instructional tool. Television is simply an electronic device, a one-way channel of communication, which has many advantages and certain shortcomings. It can bring new dimensions to the classroom, depending upon whether the teacher uses it wisely. Properly used, video technology can contribute significantly to better educational, occupational, and social opportunities for hearing-handicapped children and adults.

Advantages of Instructional Television:

1. Provides basic and enriched instruction in all areas of the curriculum at all levels -- Once television is available, teachers find many and varied applications.

2. Assures up-to-date content material -- History in the making is immediately and easily available at the teacher's fingertips.

3. Mirrors the everyday world -- self, family, school, community. Children begin to see that they themselves are part of history

and that significant events do not take place only in distant times and places.

4. Magnifies demonstrations and illustrative materials -- The TV lens enlarges small objects to full-screen size for intimate inspection.

5. Provides instant replay -- Immediate feedback (and reperformance) is possible through no other medium.

6. Offers long-range recall and reinforcement -- Videotape recordings can be stored indefinitely for replay as often as desired, and simple editing provides material form-fitted for specific needs.

7. Utilizes all other instructional media -- Only television has the capability of incorporating all other technological tools now available (films, slides, tapes, transparencies, etc.). In addition, more classrooms can be served simultaneously if desired.

8. Brings maximum resources into the classroom -- Every teacher has access to outstanding scientists, artists, musicians, teachers; to community resources; to more effective team teaching approaches.

9. Motivates learning -- The visual impact of the TV presentation can serve as a springboard for involving the learner in the subject.

10. Promotes child-centered learning -- Learning opportunities can be expanded and more nearly equalized for all pupils, regardless of individual differences. Close concentration enhances personal responsibility for learning on the part of the student.

11. Evaluates pupil progress -- Via videotape, individual growth from the beginning through the school year can be documented for staff evaluation and parent counseling.

12. Accelerates professional growth -- Watching master teachers in action, participating in team teaching, searching for innovative ideas, evaluating self-performance -- all contribute to better teaching.

13. Can be economically feasible -- Instruction costs less per student when larger numbers of students are served.

This list is by no means exhaustive. Validated findings of research conducted in the United States, Canada, Britain, Japan, and elsewhere reveal that consistent use of television for instruction

can bring about significant improvement in pupil achievement -- regardless of grade, subject, range of abilities, or class size.[1] In the hands of an imaginative teacher, television's possibilities are literally limitless.

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[1] Reported by the METROPOLITAN EDUCATIONAL TELEVISION ASSOCIATION OF TORONTO, The TV Educator (June 1967), GPL Division, General Precision, Inc.

II. SUGGESTIONS FOR CLASSROOM USE

Videotape Recorder (VTR) and Monitor for Playback

Here you have the simplest of video equipment. Don't be afraid to use it - experiment!

--- Become familiar with commercially prepared videotapes and request for purchase or rental (after previewing) those that will best suit your classroom or other teaching situation. Make it a point to find out what funds are available for the purchase of instructional materials of this type. If funds are available, use them. If funds are limited, begin to effect a change in the budget by demonstrating your need for more prepared materials as well as for more blank tapes.

--- Make sure that you preview all programs. You may want to use only a few minutes of an entire program. If so, just play and use that part. One advantage of having control of the VTR is that you can stop, discuss, continue, or replay the tape at your discretion. Make full use of this feature. With a little practice you will feel at home in controlling the tape and using it as a unique instructional tool.

--- Record programs off-the-air from open circuit television for rebroadcast at a convenient time and for continued future use. This may be done during or after school hours. Most networks will OK the taping as long as the program is not used out of the school setting.[2]

---

[2]Be wary of copyright infringement.

--- Tape is erasable, but also expensive. Get together with your colleagues and formulate an order of priority for copying as well as erasing. Then, as blank tape comes into heavy demand (and it will), you will be prepared to part with some of your treasures.

--- Choose programs that are well-structured and help to meet pre-conceived objectives. Specific instructional programs (such as new math or remedial reading or the arts) are useful as supplementary and enrichment materials. An individual student or small group can watch a particular program at the time and place you designate, while other individuals or groups are involved in activities more appropriate to their needs.

--- Enrichment courses for students are frequently presented through ETV. These courses, taped and stored, can usually be taken independently with minimal assistance from the instructor. They are particularly useful in small high schools where it is not feasible to schedule advanced courses.

--- At junior and senior high school levels, more flexible scheduling allows students to use the VTR equipment individually for instructional or remedial work. Train students to run the equipment so that they can handle the recording and playback of videotaped material for themselves, for the classroom for the dormitory. At these levels, in addition to the suggestions made earlier, you may want to explore the use of:

<u>commercials</u>

as propaganda tools

loaded words

studies in the psychological use of ads, editorials

examples of art/graphics, cartooning, layout

controversial issues

foreign policy

student revolutions

urban problems

racial problems

extraction of "bits" of visual information

dramas, feature films, documentaries

editing of long programs into small instructional or informational segments

Videotape Recorder (VTR), Monitor, and One or Two Cameras

Now the TV camera (fixed or mobile) has been added to the operating equipment. This new combination may be used not only as a production device, but also for many other instructional strategies. The capability of either instant or delayed replay allows a variety of follow-up activities. The original recording is not only re-created, but can be viewed in slow motion or stop motion for thorough analysis. The uses are limitless. For example:

class demonstrations are magnified -- a science experiment, a typing keyboard, fingering of a musical instrument, illustrations from a book, and so on and on.

a drama coach tapes an act from the rehearsal of a school production and then through instant replay sits with the "actors" and "crew" involved for a real evaluation and learning session.

language classes take filmstrips and slides and translate the original English narration into other languages.

pupils can "teach" one another from original lessons put on tape.

a field trip on videotape is not only a documentary, but a stimulant to communication and growth in language.

resource persons can be used extensively without the scheduling problems inherent in one-time, live presentations. A videotape makes the resource person readily available to many classrooms and whenever needed.

a dance teacher tapes the student troupe to record and immediately analyze style, movement, and stage presence.

speech and lipreading exercises are (a) presented in magnified form and (b) each student's performance on videotape analyzed with him individually for identification and correction.

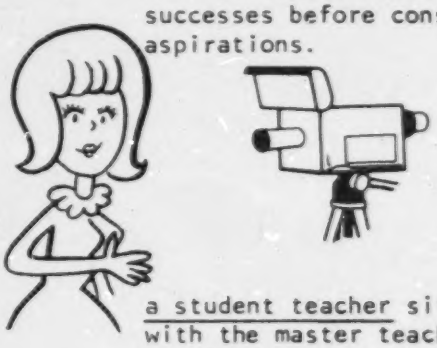
existing audiovisual materials are transferred to videotape. Slides in a carousel can be flashed on a piece of white oaktag with accompanying captions and live or audiotaped narration. Entire or edited portions of filmstrips can also be transferred to this medium. Students can write and narrate many sequences

of this type; experiment with multiple narrations for discussion purposes.

The uses are by no means confined to the classroom. Videotape is a remarkable tool for preservice or inservice training of teachers, parents, aides; for observation and evaluation of student progress, teacher performance, program effectiveness: for dissemination of information to parents, professional, legislative, lay groups.

parents become aware of the program's goals and objectives before enrolling their child.

funding sources have a first-hand look at innovations and successes before considering aspirations.



a teacher tapes himself while presenting "something new" to his class and later watches himself and evaluates his effectiveness (then erases the tape!)

a student teacher sits down with the master teacher to analyze his microteaching performance. Videotape is instant, accurate, impartial.

new staff are easily oriented to routines and procedures.

decisions for improvement of program and ongoing practices are based on pertinent information collected on videotape.

the child's transition from one teacher and/or one school to another is smoothed by an overview documented on videotape.

a consultant can replace time-consuming live observations with a videotaped behavioral description.

parents often are unaware of lack of carryover of school activities into the home environment or concerned about the child's progress. Let the parents, individually or in group meetings, view comparison tapes made at various times during the school year. Here they can readily see the progress their child has made from September through June and be prompted to special efforts at home.

Student participation[3] in TV "production," be it single camera operation or complex studio, should not be underrated. The value often is more in involvement than in quality of the product itself.

student music combos, mock political conventions, football queen contests can provide opportunities for harnessing creative talents from what may appear to be the most unlikely sources.

students produce regular news programs: conceived, planned, scripted, performed, taped, and broadcasted by the pupils under teacher-technician guidance. For example, student "reporter" interviews are played back with selected pictures for added interest and captions to accompany the audio track. School and community provide a wealth of primary resource material.

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[3]Every school should routinely obtain a signed permission form ("talent release") from parents as a part of enrollment procedures.

students who have difficulty in expressing themselves with words can express an idea through drawings, a drama, or a mini-documentary on videotape.

TV Clubs encourage creativity and bring forth unsuspected talents as students plan and produce "TV Specials."

program ideas grow out of a lesson, a trip, a national event, a nearby construction project, nature-in-action, student interests, and so on and on and on.

language growth is stimulated as students write captions to be superimposed on their school broadcasts.

III. "DO-IT-YOURSELF" ITV

Considerations in Selecting Content for the ITV Program

1. Remembering the principles of learning emphasized in your professional courses, decide on the general purpose in terms of behavior you want to produce in the target audience for the program. Define clearly in your own mind the changes sought. To do so you will find it necessary to analyze your target audience -- its collective and individual needs.
2. Define the specific objectives of a program in terms of changes in attitude, knowledge, skill, etc., required to achieve the required changes in behavior. In deciding on objectives, remember that you can't do everything in one program. It is better to limit yourself to two or three points, or even one point, and do it well. This will mean that you will have to weed out everything else that does not contribute to your objectives--a painful and difficult process.
3. Be accurate when dealing with factual material, but be open to alternatives with content which lends itself to divergency of views. Since, despite its name, a guinea pig is not a pig, it should not be referred to as a kind of pig. Divergent thinking can be encouraged by stopping the tape for discussion, "How can he find a way to get back home?" Each viewer will have his own response to the question, "What do you suppose made Maria so sure that no one had come along the road that

morning?" or, "How can he get that big, heavy box into the truck? Any ideas? What do you think?"

4. Building a bridge between the familiar and the unfamiliar, including both so that the familiar will provide a dependable frame of reference from which to expand toward and incorporate the unfamiliar.

5. Help children move from their magical conception of the world to a realistic conception of the world. When adults speak to inanimate objects and ask for replies from them, they reinforce the magical conception of the world. Clarifying cause and effect relationships help children move toward reality. Asking "why" or wondering "why" supports the idea that there are reasons for events.

6. Keep alive the attitude of play and imagination, yet make clear distinctions between fantasy and reality. For example, "We can't really walk in space the way the astronaut did, but we can imagine how it feels. Can you show how you imagine it feels to walk in space?"

7. Stress "on-location" reality to extend the boundaries of children's experiences. Be highly selective so that the visual image clarifies the purpose of the program. The purpose of understanding a crane at work may be obscured if the camera also catches many passing trucks. If the natural tempo of a bricklayer obscures his actions, either have him slow down his actions or project at a lower speed in the program itself.

8. Deal also with important issues such as fears of children, social problems, race conflict, religion, sex, anger, love, hate, anxiety, desire, and other honest emotions -- always on a level comprehensible to your learners.

9. Within a general development pattern, each child's learning profile is uneven, persistent, and highly personalized. All of his learning is a meshing of cognitive dimensions, of affective or emotional dimensions, or psychomotor dimensions, and of value dimensions. Therefore, any evaluation of a child which ignores any of these dimensions does violence to the reality of his highly personalized learning profile. Testing instruments should not fall into the trap of measuring only highly circumscribed items which are not of very great consequence in the total development of the child.

The Student as Vital Part of the ITV Team

Helping the student feel at ease before the camera. Before any specific learning experience is attempted via ITV in the classroom, students at ease performing before the camera. All children love to act, and only a few opportunities to see themselves on the same screen on which they view their favorite programs will banish self-consciousness and focus attention on performance with no regard for equipment.

Taping and replaying a class activity by panning the camera to cover all individuals gives each a chance to see himself and others in action. Field trips (even just around the block), activity poems, choral reading, rhythmic sessions, group dramatizations, gymnastic feats, for example, provide such opportunities. For the little ones, hand-

held puppets add to the fun. From here, it is easy to progress to individual participation as desired.

Training students to operate the equipment. In the early grades, of course, actual operation of the equipment is largely the teacher's concern, not the pupils'. First, invite the children to look over the equipment as you tag and name each piece, briefly explaining its function. Gradually, introduce them to simple equipment operation. Any child who is big enough to use a still camera can operate the fixed camera for VTR.

In the upper grades, as has been emphasized earlier, students should become increasingly involved with all phases of school-produced ITV. The youngsters will enjoy the added responsibilities and also develop skills for using VTR equipment for self-instruction in and out of class hours. At the end of a training period, assignments can be rotated so that every student will at some time have responsibilities for camera operation, tape-threading, level adjustments, recording, replaying, and cleaning and storing equipment and materials.

Some Do's and Don't's When Using the VTR with Children[4]

DO take time in operating the equipment to call the parts by their correct titles. For the non-hearing child, oak tag labels could be taped on the pieces of equipment.

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[4]Portions of this section from Teaching With Television: A Classroom Handbook compiled and edited by Speech Through Vision Study Committee, Ralph S. White, Director, Northampton, Massachusetts, School Department in cooperation with Clarke School for the Deaf, n.d.), pp. 19-20.

DO give the beginning performer some props to help him. Even holding a picture that he can see in the monitor helps to give him confidence.

DO acclimate a reticent child through group participation to be at ease before a camera.

DON'T force him to perform alone until he is ready.

DON'T expect the class to be fascinated while you "troubleshoot." Postpone the lesson for another session when equipment is in ready running order.

DO encourage each child to evaluate his own performance during the replay. Offer gentle criticism, finding something good to say to encourage him and limiting adverse comments to the specific area under improvement.

DON'T expect a polished production from a work tape. Tapes are as easily erased as they are made. Most work tapes should, and do, look like scratch pads.

DO remember that the VTR is a tool used as a learning aid. It does not replace the value of a harmonious interrelationship between teacher and child.

DO limit the time allotted for VTR activity. Be sure to stop while interest is high.

Evaluation Checklist for ITV Productions

1. Is this program suited to the audience for which intended? ____
2. Does it meet preconceived needs of this audience? ____
3. Is the purpose clear? ____
4. Is there a valuable lasting impression? ____
5. Does the program arouse interest at the outset? ____
6. Does it proceed in good sequence? ____
7. Is the material clear and easy to follow? ____
8. Are the primary emphases of the subject brought together? ____
9. Does it "tell them what we were going to say, say it, and summarize what we had said?" ____
10. Is the format presentation adequate? ____
11. Is the program visually interesting? ____
12. Are visual aids used adequately? ____
13. Is the videotrack appropriate? ____
14. Do the personalities "communicate?" ____
15. Is pacing adequate? ____
16. What are the best qualities? _____
17. What are the worst? _____

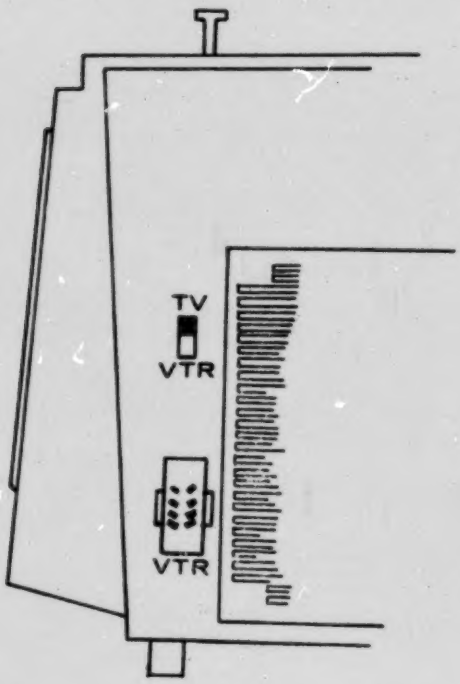
APPENDIX A

Operation and Maintenance of ITV Equipment

OPERATIONAL CHECKLIST: CONCORD VTR - MONITOR/RECEIVER (Model - 600)

A. For regular TV viewing
   1. Same operation as standard television sets.

B. As Monitor/Receiver with Videotape Recorder
   1. Set Selector Switch to 'VTR' position.
   2. Connect Monitor Cable to Monitor/Receiver at 'VTR' connection receptacle.
   3. Plug Monitor Cable into Videotape Recorder at 'TV RECEIVER' receptacle.



CONCORD MICROPHONE
or a Dynamic microphone

A microphone may be used to record sound with your video productions, or to 'dub' in sound later.

1. Plug Microphone into side of recorder at the 'MIC INPUT' receptacle.
2. Place Microphone as near to subject as possible.
3. Press 'RECORD' button only.
4. Have subject speak, and adjust AUDIO knob on Videotape Recorder for proper audio level.

(See CHECKLIST - Videotape Recorder, Section E - steps 1, 2, 3).

CHECKLIST: CONCORD VIDEOTAPE RECORDER (Model MR-600-1)

The Videotape Recorder (VTR) may be used to: record directly from the television monitor/receiver; play prerecorded tapes; record your own productions.

A. Preparation for use:

1. Remove AC POWER CORD from lid of case.
   Connect to 'AC POWER IN' receptacle on side of case.
   Plug into standard electrical outlet.

2. Thread MAGNETIC TAPE with recorder OFF.
   Unwind about 3 feet of tape.
   Thread inside tension arm and through channel.
   Wrap free end around center hub of empty reel counter-clockwise until tape is secure and slack is taken up. (It will do no harm to pull tape through channel.)

   (It may be necessary to rotate left reel to allow the tape to be secured to right reel.)

B. To play Recorded Tape:

1. With Monitor Cable, connect the Recorder to the VTR Monitor/Receiver.
   Plug into 'TV RECEIVER' receptacle on recorder.
   Plug into 'VTR' receptacle on Monitor/Receiver.

2. Turn on monitor.

3. Turn on recorder.

4. Set INPUT SELECTOR on recorder to 'TV RECEIVER'.

5. Press PLAY button.

6. Adjust sound and picture on monitor.
   (During playback, AUDIO and VIDEO LEVEL controls on the Videotape Recorder do not operate.)

C. To record from TV Monitor/Receiver.

1. Set up as in Section A and Section B - steps 1, 2, 3, and 4.

2. Adjust monitor to best possible picture.

3. Press RECORD button.

4. Adjust video by using VIDEO LEVEL control, and watching monitor.

5. Adjust audio by using AUDIO LEVEL control - so that the needle in the AUDIO LEVEL meter deflects within the black zone.

6. Set mechanical TAPE COUNTER, if desired.

7. Press the RECORD and PLAY buttons simultaneously and firmly.

D. To record from Television Camera.

1. Set up Recorder as in Section A and Section B - steps 1, 2, and 3.

2. Connect Video Cable from Television Camera VIDEO receptacle to Recorder 'TV CAMERA'.

3. Set INPUT SELECTOR switch to 'TV CAMERA'.

4. Press RECORD button only.

5. Use VIDEO LEVEL control knob to adjust picture.

6. If using Microphone, use AUDIO LEVEL control knob to adjust sound until needle in Audio Level Meter deflects within black zone.

7. Press RECORD and PLAY buttons simultanecusly and firmly.

E. Audio Dubbing.

Sound can be added to the tape after the picture has been recorded. Previously recorded sound will automatically be erased when you record over it.

1. Set up as in Section A and Section B - steps 1, 2, and 3.

2. Plug Microphone into Videotape Recorder at 'MIC INPUT' receptacle.

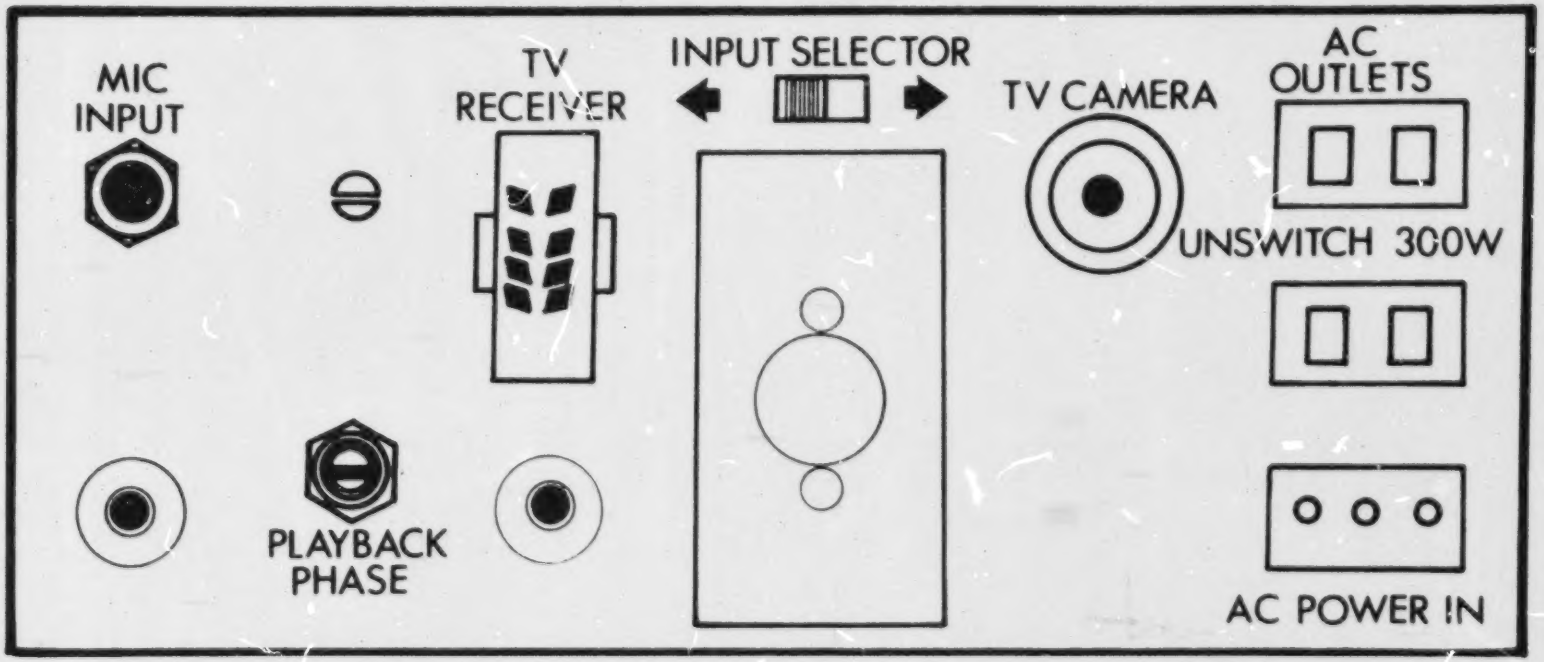
3. On Videotape Recorder, set INPUT SELECTOR switch to 'TV CAMERA'.

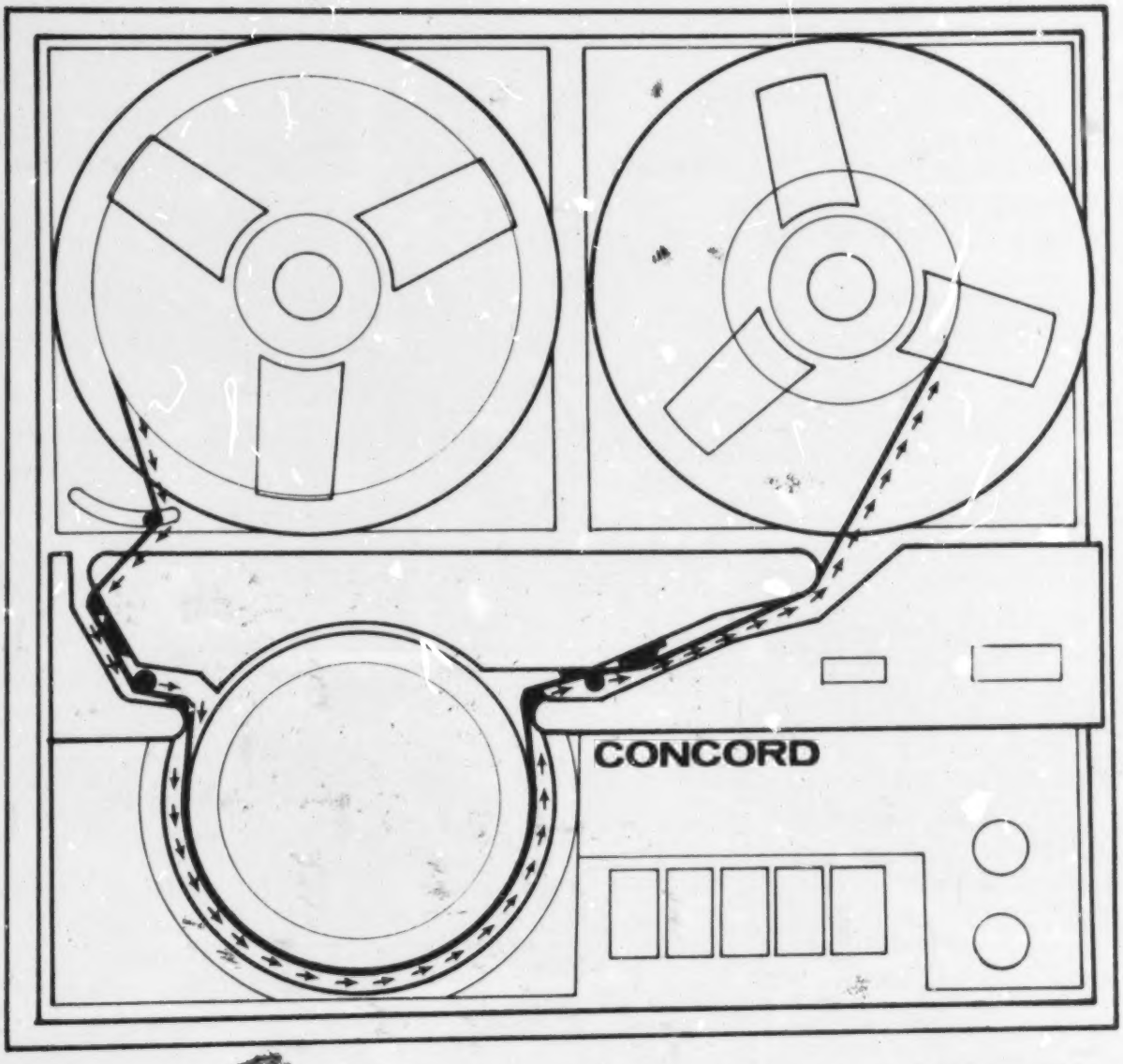
4. Press RECORD button only and adjust AUDIO LEVEL control.

5. Set VIDEO LEVEL control knob to 'VIDEO RECORD - OFF'.

6. Turn VOLUME control on Monitor/Receiver to minimum position.

7. Press PLAY and RECORD buttons simultaneously and firmly.


MIC
INPUT
TV
RECEIVER
INPUT SELECTOR
TV CAMERA
AC
OUTLETS
UNSWITCH 300W
PLAYBACK
PHASE
AC POWER IN


CONCORD

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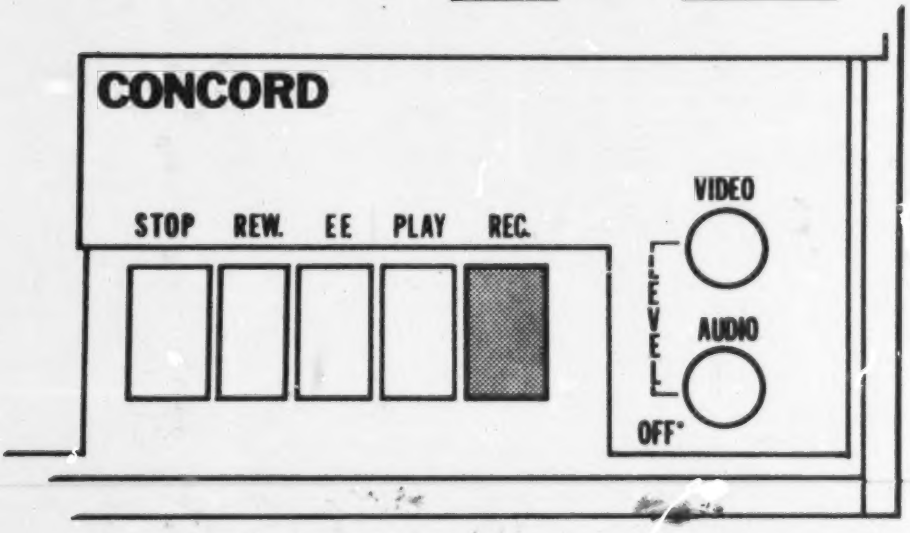
CONCORD
STOP
REW.
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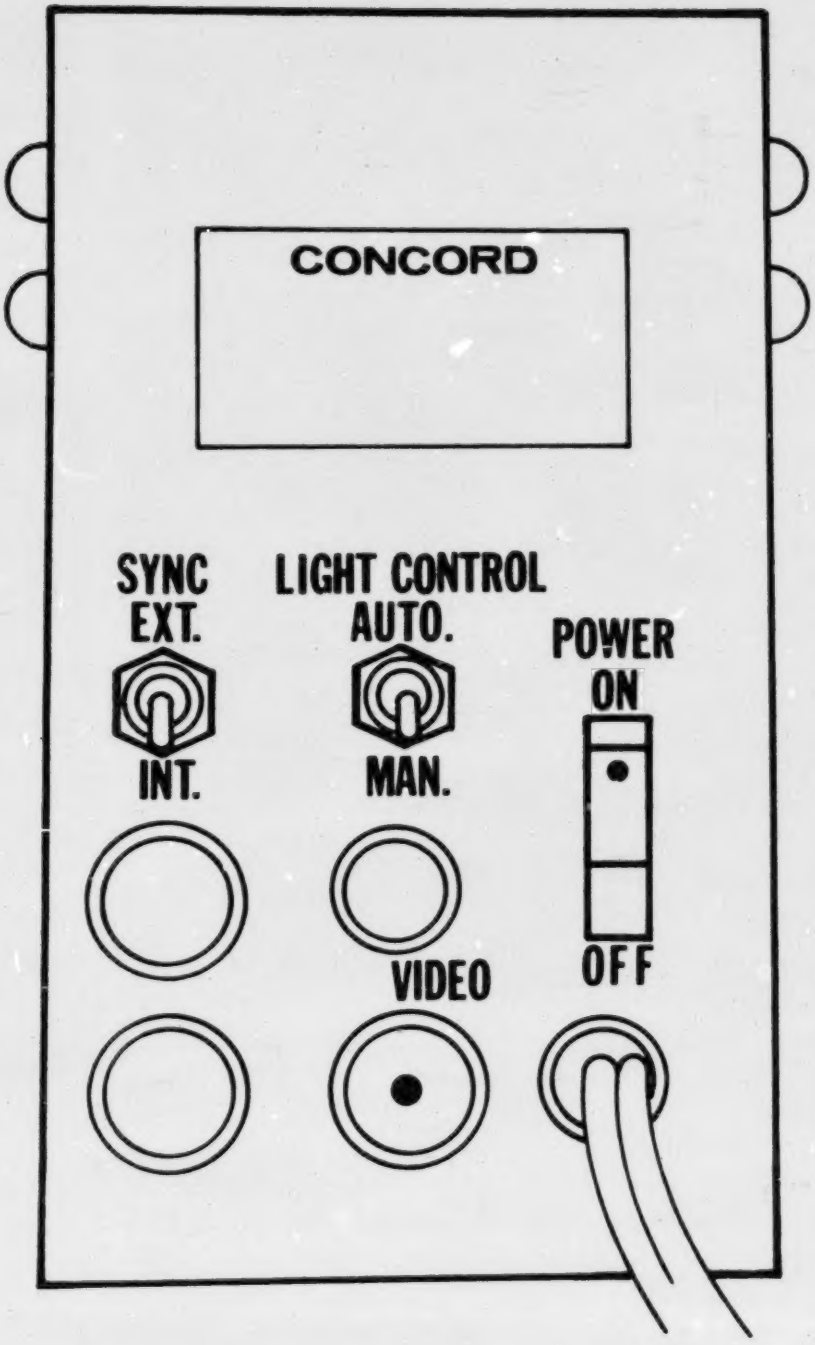
VIDEO
AUDIO
LEVEL
OFF


CONCORD
SYNC
EXT.
INT.
LIGHT CONTROL
AUTO.
MAN.
POWER
ON
OFF
VIDEO

OPERATIONAL CHECKLIST: CONCORD TELEVISION CAMERA (Model MTC-18)

To mount the Camera on a tripod, place the threaded hole on the base of the camera over the Attaching Screw on the tripod, and turn screw by hand until the camera is firmly seated.

A. Video Recording.

1. Camera OFF.
2. Lens Cover ON.
3. Use Video Cable to connect to Videotape Recorder:
   Plug into Camera at 'VIDEO' receptable.
   Plug into Recorder at 'TV CAMERA' receptacle.
4. Set LIGHT CONTROL switch to 'AUTO'.
5. Set SYNC switch to 'INT'.
6. Plug Power Cord into standard electric outlet.
7. Remove Lens Cover.
8. Turn POWER switch 'ON'.

NOTE: Always replace lens cap when camera is not actually in use. With lens cap on - camera should be OFF.

9. Follow CHECKLIST - Videotape Recorder - Section D.

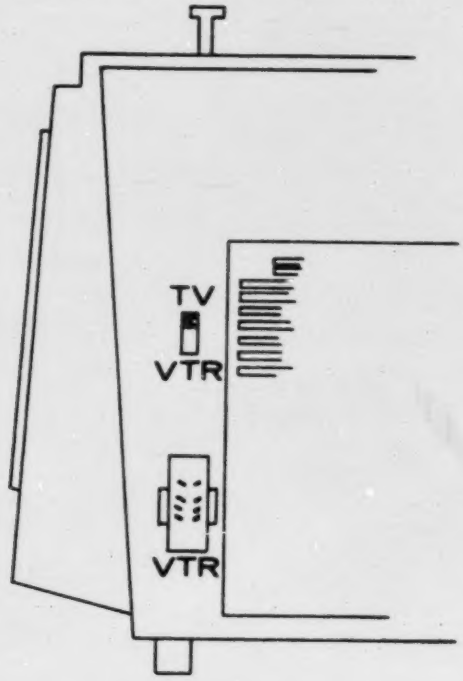
OPERATIONAL CHECKLIST: SONY MONITOR/RECEIVER (Model CVM-51UWP)

A. For regular TV viewing.

1. Same operation as standard television sets.

B. As Monitor/Receiver with Videocorder.

1. Set TV/VTR SWITCH to 'VTR' position.
2. Connect Monitor Cable to Monitor/Receiver at 'VTR' receptacle.
3. Plug Monitor Cable into Videocorder at 'TV' receptacle.



A microphone may be used to record sound with your video productions, or to 'dub' sound in later.

1. Plug Microphone into side of recorder at the 'MIC IN' receptacle.
2. Place Microphone as near to subject as possible.
3. Follow CHECKLIST - Videocorder - Section D and/or Section E.
4. Monitor sound from Microphone by plugging earphone into 'EAR' jack on Videocorder.

OPERATIONAL CHECKLIST: SONY VIDEOCORDER (Model CU-2200)

The Videocorder may be used to : (1) record directly from the television monitor/receiver; (2) record your own productions; (3) play pre-recorded tapes.

A. Preparation:

1. Remove power cord from lid of case.
   a. Connect to 'AC IN' receptacle on back of case.
   b. Plug into standard electrical outlet.

2. Thread Magnetic Tape - with recorder OFF.
   a. Unwind about 2 feet of tape.
   b. Thread from left to right - outside tension arm between large and inside post on left; through channel; inside the post on right side.
   c. Wrap free end around center hub of empty reel and wind (counter clockwise) until tape is secure and slack is taken up.

(It will do no harm to pull tape through channel. However, the videotape can become stretched if excessive pressure is exerted by rotating right reel. Rotate left and right reels to allow tape to become secured to right reel.)

B. To play recorded tape.

1. With Monitor Cable, connect Videocorder to Monitor/Receiver.
   a. Plug into "TV" receptacle on Videocorder.
   b. Plug into 'VTR' receptacle on Monitor/Receiver.

2. Turn Monitor 'ON'.

3. Set switch on back panel of Videocorder to 'ON'.

4. Adjust Monitor controls for normal picture and sound using any local channel.

5. Set TV/VTR SWITCH on Monitor to 'VTR' position.

6. Press TV/CAMERA button on Videocorder to 'TV' (up) position.

7. Set FUNCTION SELECTOR LEVER to 'PLAY' position.

   (Note: Do not press RECORD button - this will erase pre-recorded material.)

C. To record from TV/Monitor/Receiver.

1. Set up Videocorder as in Sections A and B (steps 1 through 6)
2. Depress RECORD button on Videocorder until locked into position.

   (The LEVEL METER will light when Videocorder is ready for use.)
3. Set AGC-MANU Switch to 'AGC' (Automatic Gain Control) position.
4. Hold RECORD button down as you move FUNCTION SELECTOR LEVER to 'PLAY' position.
5. Set Mechanical Tape Counter, if desired.
6. When finished recording, move FUNCTION SELECTOR LEVER to 'STOP' position, then to 'REWIND'.

D. To record from Television Camera.

1. Set up Videocorder as in Sections A and B (steps 1 through 5).
2. Connect Video Cable from Camera 'VIDEO' receptacle to Videocorder 'CAMERA' receptacle.
3. Set AGC-MANU Switch to 'AGC' position.
4. Press TV/CAMERA Button on Videocorder to 'CAMERA' (down) position.
5. Point Camera (and/or Microphone) toward subject.
6. Adjust Camera Lens Opening and Focusing by watching Viewfinder.
7. Hold RECORD button down for approximately 15 seconds, then move FUNCTION SELECTOR LEVER to 'PLAY' position.
8. When finished, move FUNCTION SELECTOR LEVER to 'STOP,' then to 'REWIND'.

E. Audio Dubbing.

Sound can be added to the tape after the picture has been recorded. Previously recorded sound will automatically be erased when you record over it.

1. Set up Videocorder as in Sections A and B (steps 1, 2, 3, and 5)
2. Connect sound source to MIC. IN/AUX. IN on Videocorder.
3. Press TV/CAMERA Button on Videocorder to 'CAMERA' (down) position.

4. Run the tape on 'PLAY' to the place where dubbing is to begin.

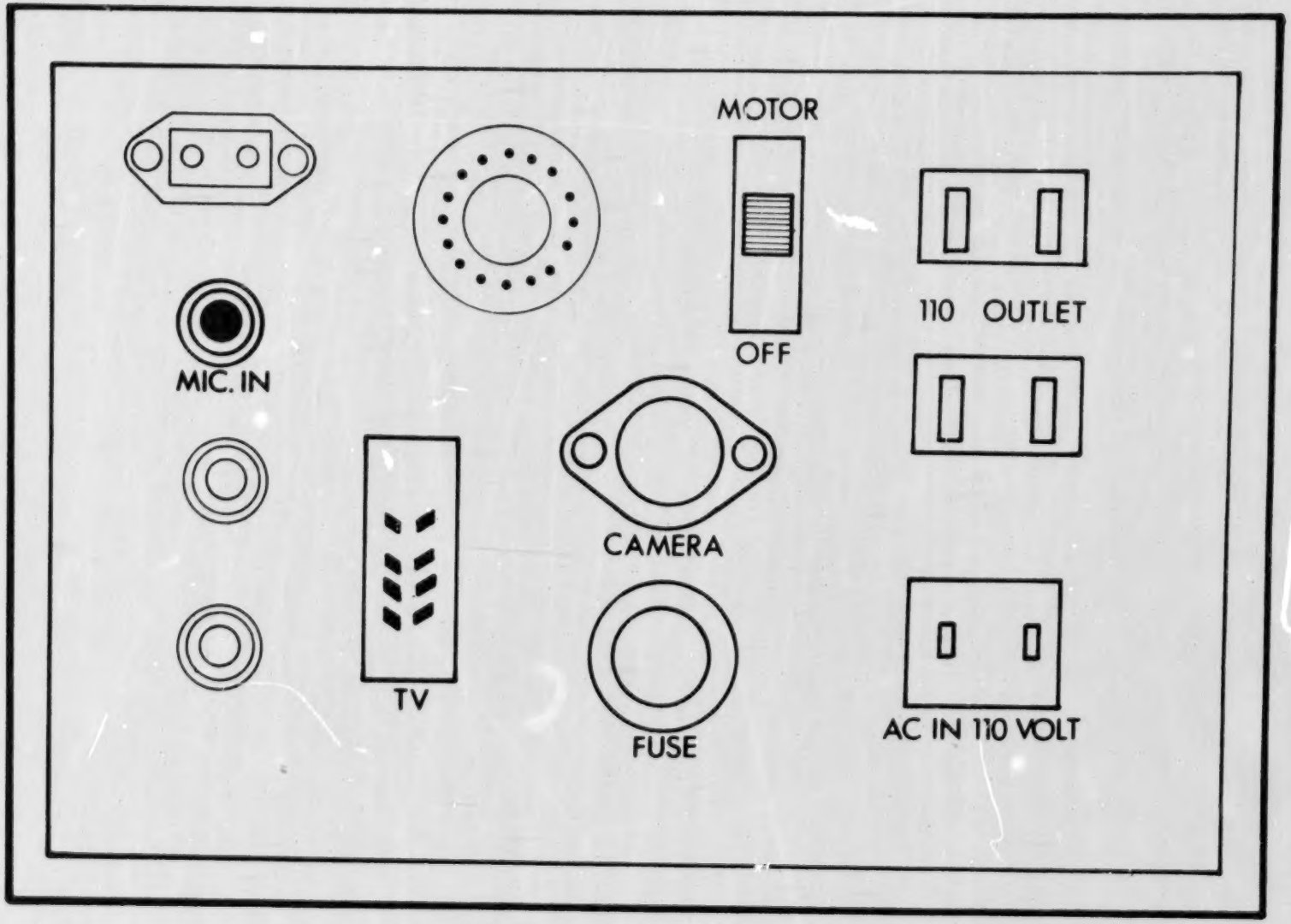
5. Turn VOLUME on Monitor to lowest sound level.

6. Press EDITING button.

7. Press SOUND DUBBING button, firmly.

8. When finished, move FUNCTION SELECTOR LEVER to 'STOP' position, then REWIND.

For simple mixing of sounds (e.g., voice commentary and background music) connect the MICROPHONE INPUT jack and the AUXILIARY INPUT jack to their proper receptacles.


MOTOR
OFF
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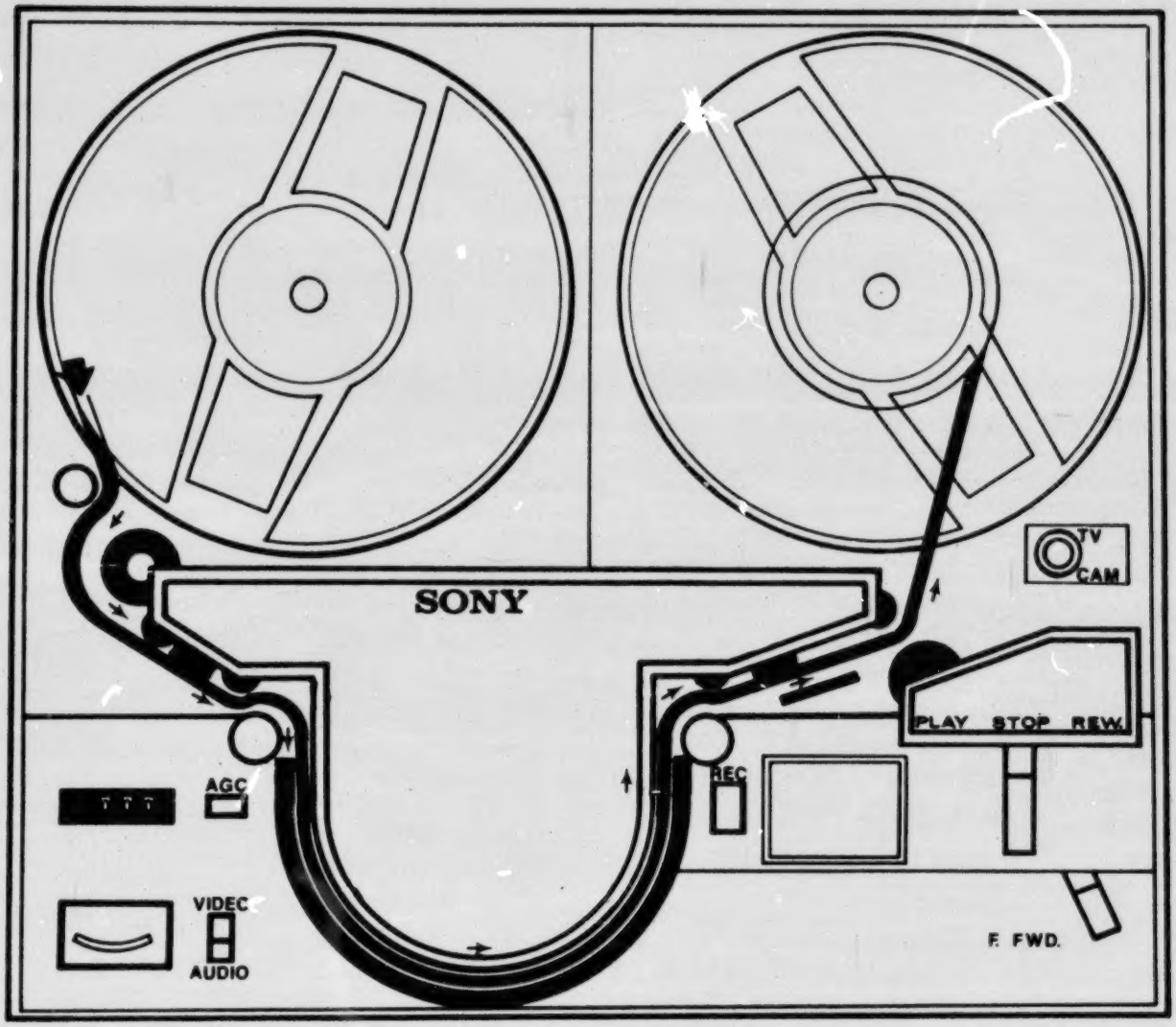
SONY
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PLAY STOP REW.
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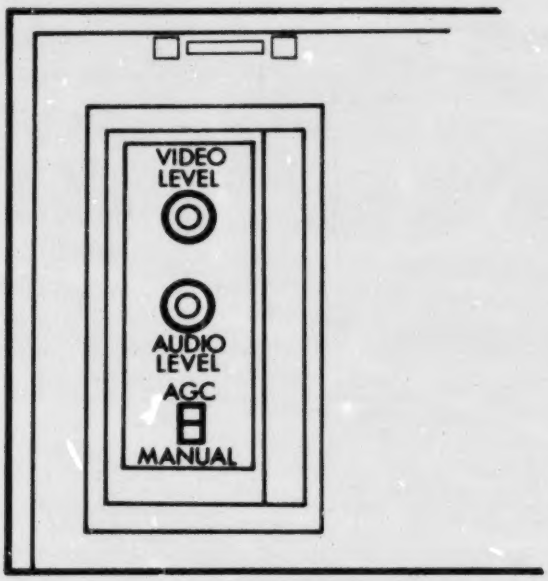
F. FWD.


VIDEO
LEVEL
AUDIO
LEVEL
AGC
MANUAL

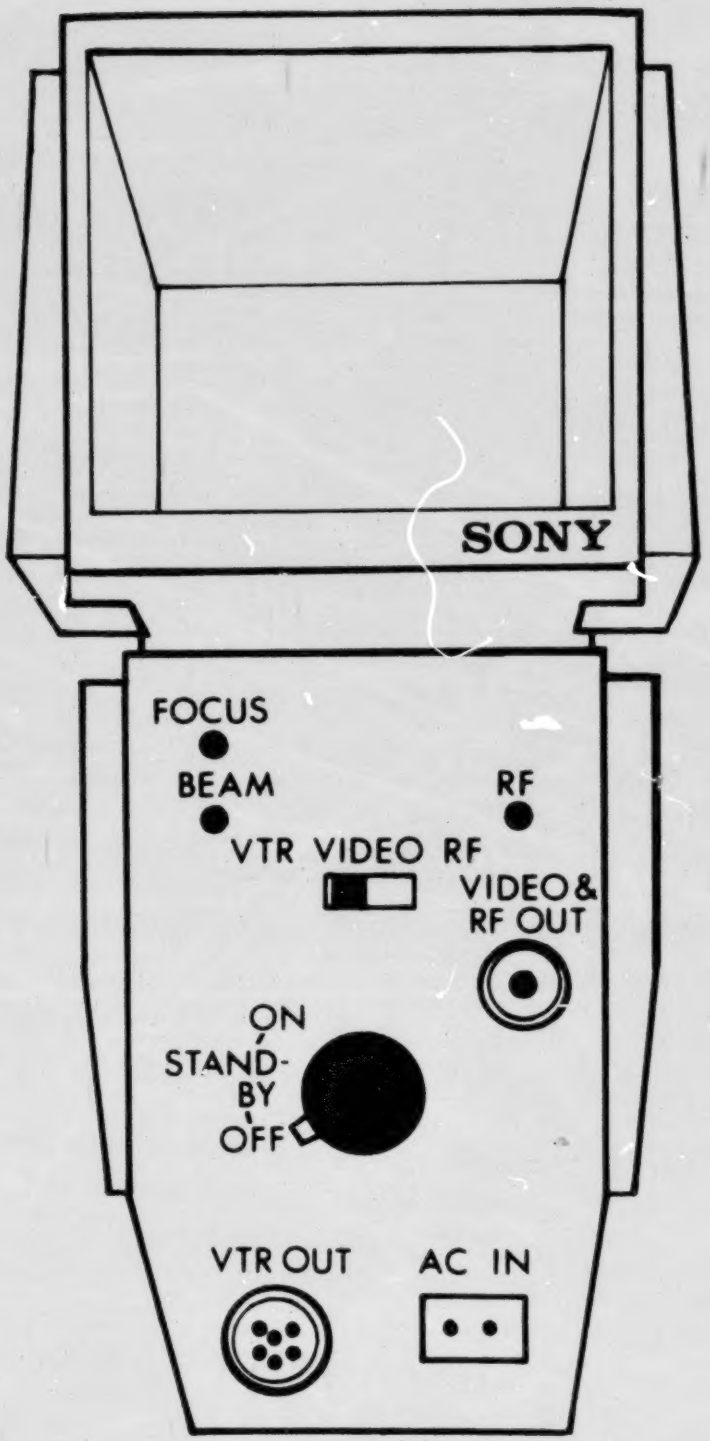
OPERATIONAL CHECKLIST: SONY VIDEO CAMERA (Model AVC-3200)

To mount camera on a camera stand, attach mounting screw on the stand to the base of the camera, (or to Camera Grip if one is used), by turning screw by hand until camera is firmly seated.

A. Video Recording.

1. Lens Cover is ON.
2. Plug Camera Cable into Camera at 'VTR OUT' receptacle.
3. Plug Camera Cable into Videocorder at 'CAMERA' receptacle.
4. Connect electric cord to Camera at 'AC INPUT', then plug into standard electrical outlet.
5. Set Selector Switch to 'VTR'.
6. Set Power Switch on Camera to 'STANDBY'.
7. Remove Lens Cap.
8. Adjust LENS OPENING Ring and FOCUS Ring while watching Viewfinder.
9. Turn Power Switch on Camera to 'ON'.
10. Follow checklist - Videocorder - Section D.

Note: Remember . . . Camera-Off/Lens Cap-On.


SONY
FOCUS
BEAM
RF
VTR VIDEO RF
VIDEO &
RF OUT
ON
STAND-
BY
OFF
VTR OUT
AC IN

CARE OF VIDEOTAPE EQUIPMENT AND MATERIALS

1. Keep the videotape operating room as clean as possible. Absolutely forbid smoking of any kind near any of the videotape machines. Not only is there the danger of ashes getting on the machines, but the tars in the smoke in the air will be deposited on the tape and machines. Never let operating personnel handle the tape after eating. Grease on the fingers will trap and hold dirt and deposits on the tape. Many videotape facilities insist on white cotton gloves for all tape handling, but this is optional.

2. Keep the videotape recorder scrupulously clean. Dirt and oxide buildups on the guides and scanner are sure to damage the tape permanently. Helical-scan format recorders are notorious for their tendency to build up deposits rapidly.

3. Normalize the temperature of videotape before using. This is extremely important with the helical-scan format. Place the tape near the recorder for at least four hours before playing if the tape has been subjected to abnormally high or low temperatures.

4. Be very careful to keep the tape clean while handling or using. Never let the tape touch the floor or any other dirty surface during threading.

5. Cut off wrinkled or damaged tape ends. Passing wrinkled or damaged tape through the machine can damage or misalign tape guides and video heads.

6. Be very careful while threading to avoid scratching or tearing the videotape.

7. Never slow down a reel abruptly by pressing on it after playback or a fast wind. This may cause tape-damaging cinching or windows.

8. Never stop the tape in the middle of a reel except to stillframe. Passing the video head over and over the same spot on the tape is certain to damage it. If you do wish to stillframe, check the operating instructions for the machine to be sure of avoiding any tape or video head damage.

9. Avoid removing the tape from the guides, capstan, or video scanner in the middle of a reel. It is very easy to cause permanent damage to the tape surface and edges. It is best to wind the tape entirely onto one reel or the other before removing it.

10. Each time you rewind the videotape, check the tape pack. If there is a bad pack with irregular edges or evidence of cinching, wind the tape forward and rewind it again very carefully. A bad pack can damage the tape and cause problems on playback.

11. Store the tape under "people conditions," that is, conditions of temperature which are comfortable to humans, 60-80°F., and 40-60% R.H. For long-term storage, rewind the tape from end to end to insure that the tape will be at a uniform tension throughout the reel. This avoids tape-stretch.

12. Store the tape in the original box. There are only two places videotape should ever be -- on the machine or in the box. The box should be stored on end.

APPENDIX B

Effective Use of ETV Programs ("Telelessons")

Educational television (ETV): specific stations and their programs operating under special frequency reservations of the Federal Communications Commission, e.g. NET (National Educational Television and Radio Center)

Some questions about ETV

1. How much time should be devoted to ETV programs?

   ---Telelessons should not take up a major portion of a pupil's day. They are best used as a specialized kind of learning experience.

2. How long should the telelesson be?

   ---This is determined by age of the student (the attention span of a first grader is shorter than that of a high school pupil) and the subject matter taught. Generally speaking, lessons vary from 10-15 minutes on the primary level to 25-30 minutes on the secondary level.

3. How does ETV lessons contribute to curriculum development?

   ---One of the most valuable aspects of television is the unequaled opportunity it provides to examine and upgrade the curriculum and to enrich it by the addition of courses or lectures not otherwise available. All classroom teacher receiving a televised course have a common experience. This puts them in an excellent position to pool their experiences, ideas, and knowledge and to help the studio teachers improve these courses in the coming year.

4. What should be taught on television?

   ---In general, television is best used in: courses in which teachers welcome help; subjects where the medium offers special visual and illustrative advantages; courses which could not otherwise be offered.

5. Is ETV more successful in some subjects than in others?

   ---In all subjects experience has shown that television, used in conjunction with classroom instruction, produces results at least as good as those achieved when classroom instruction alone is used, and in many cases significantly better results are obtained. In some subject areas it may be a basic resource; in others its use is supplementary.

6. How effective is ETV in holding the attention of pupils?

   ---A well-planned, well-taught television lesson will command attention to a degree that is seldom achieved in the conventional classroom. The factors responsible for this are: the skill of the studio

teacher; the great variety and change of pace that television makes possible; the capacity of the screen for controlling, directing, and holding attention, showing only what is pertinent, and excluding the extraneous; eye-to-eye contact between the studio teacher and students.

7. How is ETV used in team teaching?

---The teacher in the studio and the teacher in the classroom combine their efforts to produce a lesson superior to that which either could produce alone. The studio teacher concentrates on preparing his lesson and presenting it with maximum effectiveness using the many techniques television makes available. The classroom teacher has a dual role. He prepares the pupils for the television lesson and, after it is over, guides them in related classroom work. Both members of the team should understand each other's responsibilities and cooperate with each other.

8. How does ETV accommodate individual differences?

---Most television lessons are designed for the average pupil; however, an effort is made in each lesson to inspire or challenge the above-average pupil. At the same time the visual nature of the lesson is of great benefit to the handicapped learner or pupil with reading difficulties.

9. How is an ETV series related to textbook use?

---Many television lesson series are enrichment in nature and totally independent of any specific textbook. Where a series is dependent upon a textbook, that book is on the State-adopted list of basal tests and the teacher's manual includes references to all of the other related books on the State list.

The classroom teacher's role in ETV

Television does not in any way diminish the importance of the classroom teacher; in many instances, however, it will change his role. When television is used for direct teaching, the classroom teacher becomes less a source of information and more a manager of the learning situation. He uses his professional skills to instruct pupils on an individual basis, to direct their learning, and to make full use of the resources and tools available. The techniques of good teaching are basically the same, with or without the use of television. There are, however, some differences for which teachers must provide.

The first step is to explain to students that ETV is designed to teach, as well as entertain, and that the people who appear on the screen are professional teachers.

The second step to effective teaching with television involves the establishment of ground rules. For example, the classroom teacher should:

. . . Stress the importance of good listening and viewing habits. The fact that telelessons can neither be stopped nor slowed down demands that students be attentive.

. . . Discuss testing procedures, homework assignments, and class participation. Let the students know what is expected of them.

The third step involves management of the learning situation. For example, the classroom teacher should:

. . . Utilize available resources such as fellow teachers, people in the community, museums, etc.

. . . Encourage and help students to work independently and to develop responsibility for their own learning.

. . . Check the physical environment of the room; make sure it is conducive to audiovisual instruction.

. . . Know the needs and abilities of individual students and be prepared to guide them in meaningful learning experiences.

. . . Study the curriculum guide well in advance of the telecast in order to understand the basic concepts and objectives to be presented. This will also make it possible for the receiving teacher to maintain the continuity of the television series in the event the scheduled program cannot be seen.

. . . Correlate the telecast with classroom instruction.

. . . Communicate often with the studio teacher; let him know the reactions

of students to the telelesson.

. . . Promote discussion.

. . . Provide small and large group activities.

. . . Be alert to areas which need review and drill.

. . . Test and evaluate frequently.

. . . Establish consistent viewing habits.

. . . Develop new teaching techniques.

Instructional television programs will have far greater value if they are utilized and evaluated by the classroom teacher. The use of telelessons in no way diminishes the importance of the classroom teacher. It simply adds new dimensions to teaching.

I. Pre-Telecast

This period should be used by the classroom teacher to equalize entering behaviors to the extent possible by careful advance preparation:

. . . Create a climate for learning by displaying interest and enthusiasm in the lesson.

. . . Establish the purpose of the lesson and make sure it is understood.

. . . Arouse student interest by raising questions and letting students raise questions about the material to be presented, by discussing aspects of the lesson which will capture their imagination, by making an attractive display on the bulletin board, etc.

. . . Distribute materials and make sure pupils have them organized and ready to use. This will help eliminate distractions and reduce confusion during the broadcast.

. . . Write special vocabulary, specific questions, problems, and outlines pertaining to the telecast on the chalkboard, and explain.

. . . Turn on set(s) in ample time and make certain it is operational and in the best position for viewing, i.e., free from glare and reflection. If having the set turned on before the telecast begins distracts members of the class, the picture can be lightened until it is hardly visible by turning contrast control button. Also keep the volume down. (In large groups, where several sets are used, these duties may be assigned to students.)

. . . Provide adequate lighting for taking notes. Television should never be viewed in a darkened room.

II. Telecast

During the telecast the classroom teacher should:

. . . Take an active and enthusiastic interest in the program, participate when participation is called for, and react when a reaction is required. The students will follow this example.

. . . Be located so as to observe the telecast and the reactions of the students. Individual student reaction may be a basis for follow-up of the television lesson. Watch for clues that may indicate questioning, difficulty, boredom, and high or low motivation.

. . . Adjust sets when necessary for sound and picture. Too much volume causes a vibration which distorts sound.

. . . Set a good example for the class by being attentive and alert. Don't use the television period to correct papers, work on attendance records, mark report cards, et.

. . . Be prepared to cope with possible distractions such as broken pencils, lack of materials, and outside interruptions. A "Do Not Disturb" sign might be placed outside the classroom door.

. . . Take notes to guide the discussion for further emphasis and clarification during the follow-up. Note-taking sets a good example for students and provides a valuable reference for test construction.

. . . If convenient, move among students periodically to observe progress. Care must be taken to avoid blocking the view or distracting attention. Such activities as writing on the chalkboard, using the overhead projector, answering questions, or making comments during the telecast should be avoided.

. . . Deal with behavior problems without delay.

. . . Turn the set off immediately when the telelesson ends and begin the follow-up. Delay will often result in disturbances.

III. Follow-Up

The television lesson is never intended to be a complete learning experience in itself. It can be meaningful only when it is followed by the types of learning activities which make the television lesson an integral part of the total learning process.

At the conclusion of the telecast, the classroom teacher should make a quick appraisal to determine just how successful the studio teacher has been in teaching the lesson's purpose and in meeting the needs of the students. The teacher must then decide which areas need reinforcing, clarifying, or expanding. A few penetrating questions directed to the students will provide the answer. An immediate follow-up lecture is a poor teaching technique. The classroom teacher should not reteach the television lesson.

This portion of the class period should be devoted to activities which will:

. . . Help students to understand the concepts presented and to form their own generalizations and conclusions.

. . . Clarify misunderstandings.

. . . Develop critical thinking.

. . . Extend the lesson through discussion and enrichment.

. . . Encourage students to seek answers to questions raised through research and independent study.

When choosing follow-up activities the teacher should:

. . . Refer to the Teacher's Guide for possible suggestions on how to extend learning beyond the television lesson.

. . . Evaluate frequently. Quizzes are excellent for determining where instruction needs to be reinforced, but the teacher should not make the common error of using the follow-up only for testing the pupils to determine what facts have been acquired. This is an excellent opportunity to discover whether attitudinal changes have occurred.

. . . Consider the possible use of other audiovisual devices which might be helpful in reinforcing learning activities.

. . . Provide for individual differences.

Having determined the needs, the teacher must choose the technique which best accomplishes the desired results. Classroom teachers using ETV programs have the ultimate responsibility for helping the learner to make the maximum use of the telelesson.

APPENDIX C

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ASSOCIATIONS AND AGENCIES

Association for Educational Communications and Technology (AECT, formerly DAVI), National Education Association, 1201 Sixteenth Street, N.W., Washington, D. C. 20036.

Educational Facilities Laboratories, 477 Madison Avenue, New York, New York 10022.

Electronic Industries Association (EIA), 1721 Desales Street, Washington, D. C. 20036.

Federal Communications Commission (FCC), New Post Office Building, Washington, D. C. 20554.

Joint Council on Education Television (JCET), 1785 Massachusetts Avenue, Washington, D. C. 20036.

National Association of Educational Broadcasters (NAEB), 1346 Connecticut Avenue, Washington, D. C. 20036.

National Center for School and College Television, Box A., Bloomington, Indiana 47401.

National Educational Television and Radio Center, 10 Columbus Circle, New York, New York 10019.

Society of Motion Picture and Television Engineers, 20th and Northampton Streets, Easton, Pa.

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APPENDIX D

Glossary of Television Terms

Amplifier--an electrical device for strengthening the audio and/or video signal.

Antenna--a conductor used for receiving or transmitting radio or television signals.

Audio--the sound portion of a television presentation.

Camera--the instrument which converts a visual image into electrical impulses.

Clearance--permission to use copyrighted material.

Closed-Circuit Television (CCTV)--a system whereby programs are transmitted only to receivers connected to the production center by coaxial cable or microwave.

Close-up--a tight shot used to make a larger than normal picture of the subject.

Coaxial cable--specially constructed cable used to transmit high level video signals.

Community Antenna Television (CATV)--a master antenna and distribution system capable of receiving, amplifying, and distributing a broadcast signal via wire or cable to the TV receiver.

Contrast--the relation of black and white on a projection or TV receiver screen.

Definition--sharpness and clarity of image on screen.

Direct television teaching--presentation of the major part of a course of study by the studio teacher.

Dissolve--fade out picture from one camera, and fade in picture from another camera.

Dolly--platform on wheels used to support camera.

Educational television (ETV)--the use of television for classroom instruction as well as community and cultural programming.

Federal Communications Commission (FCC)--the federal agency responsible for making policy and exercising control over all use of the air waves for broadcast purposes.

Foot candle--a unit of measurement applying to light intensity.

Instructional Television (ITV)--programs produced and designed for classroom instruction on any educational level.

Instructional Television Fixed Service (ITFS)--A system providing up to four channels for relatively short-range transmission over-the-air of instructional programs.

Kilohertz (KhZ) - previously Kilocycle (kc)--A unit of frequency equal to 1,000 cycles.

Kinescope--the picture tube in the TV receiving set.

Kinescope recording--a film of the television program made directly from the face of the viewing tube.

Lens turret--a disk mounted on the front of the camera for holding various size lenses. It can be turned to bring different lenses into use.

Master antenna system--one antenna with a distribution system designed to eliminate the need for an individual antenna for each receiver.

Megahertz (MhZ)-formerly megacycle (mc)--1,000,000 cycles per second--this refers to the frequency of electromagnetic waves such as those used to broadcast radio and television signals.

Microwave--a special high-frequency transmitter used for carrying audio and video signals in a point-to-point direction. A single link, consisting of transmitter and receiver, can cover distances up to 50 miles.

Monitor--an off-the-line receiver used in studio and control room for showing picture of the program in progress.

National Association of Educational Broadcasters (NAEB)--an organization representing people involved in the production, distribution, and use of educational and instructional television programs.

National Educational Television (NET)--producer and distributor of educational television programs on a nationwide basis.

Network--a group of interconnected television or radio stations capable of simultaneous broadcast of a single program.

Open-circuit television (Broadcast)--radio wave transmission directly from the television station intended for reception by the general public.

Pan--the slow movement of the camera to either the right or left.

Prop--furniture or objects used in a set.

Script--written copy of the audio and video portions of a television production including directions for the presentation of the program.

Studio teacher--the teacher who presents lessons on television.

Superimpose--the process of exposing the picture from one camera on that of a second camera.

Talent--the studio teacher, students, or guests presented before the camera.

Transmitter--the electronic equipment used to generate and send radio signal.

Tilt--swing camera up or down.

Ultra high frequency (UHF)--a frequency of 30 to 300 megacycles per second. It is used on channels 14 through 83.

Very high frequency (VHF)--a frequency of 30 to 300 megacycles per second. It is used on channels 2 through 13.

Video--the visual portion of a television presentation.

Videotape recorder (VTR)--a device which uses special magnetic tape to record both the audio and video portions of a television production for replay at a later date.